

aorta: $n = 10$). In contrast, turbulent blood flow entering a localized pseudoaneurysm through a partial TAR was only noted in a single trauma patient. **Conclusions:** TEE color flow mapping is useful to distinguish between TAR, and AAD. Since AAD may also occur in trauma settings and its management may differ from TDA, color Doppler should be routinely used in the TEE evaluation of patients with suspected traumatic aortic injuries.

770 Managing the Complex Problems Associated With Vascular Disease

Tuesday, March 26, 1996, 4:00 p.m.-5:30 p.m.
Orange County Convention Center, Room 230C

4:00

770-1 Systemic Thromboembolism in Severe Congestive Heart Failure. A Prospective Study in 406 Patients

Giovanni Gionfi, Massimo Pozzoli, Giovanni Forni, Mariella Franchini, Davide Rossi, Cristina Opasich, Franco Cobelli, Luigi Tavazzi. *Maugeri Foundation - IRCCS - Montescano - Italy*

In patients with congestive heart failure (CHF) the risks of systemic thromboembolism and the benefits of anticoagulation are uncertain. To assess the incidence of systemic thromboembolism and the factors associated with an increased risk, 406 patients with CHF consecutively admitted to our Heart Failure Unit were prospectively investigated. All patients underwent a comprehensive evaluation at baseline and every 6 months. At entry, mean left ventricular ejection fraction was $23 \pm 8\%$ and mean pulmonary wedge pressure 20 ± 7 mmHg. 200 patients were in NYHA class III-IV and 204 were awaiting heart transplantation. Patients who died (122) or were transplanted (76) were removed from the analysis on the date of the event. **Results:** Over a follow-up of 16 ± 11 months, thromboembolism occurred in 11 patients (2.7%), 7 of whom were receiving anticoagulants in a moderate-intensity regimen. Among the considered variables, atrial fibrillation, low cardiac output and low exercise capacity were associated with an increased thromboembolic risk. Thromboembolism occurred in 7/37 (19%) patients with atrial fibrillation and low cardiac output. No echocardiographic findings, including intracavity thrombi, either at baseline or during follow-up, were related to thromboembolism. The rate of embolization was not different in the 232 patients who were anticoagulated compared with those who were not (3 vs. 1%). No major bleedings occurred. **Conclusions:** the incidence of systemic thromboembolism is low in sinus rhythm patients with CHF regardless of anticoagulant treatment. Atrial fibrillation, particularly when associated with low cardiac output, identifies a subgroup at higher risk. In this subgroup moderate-intensity anticoagulation does not provide satisfactory protection against thromboembolism.

4:15

770-2 A Modification of the Peripheral Angioplasty Procedure to Treat Below-The-Knee Vascular Disease: Initial Success and Late Outcome in 97 Patients

Yoseph Shalev, Michael J. Fortsas, Donald H. Schmidt, Tanvir K. Bajwa. *University of Wisconsin Medical School, Milwaukee, WI*

As traditionally performed, the procedure to treat below-the-knee (BK) peripheral vascular disease (PVD) remains greatly challenging. Bypass surgery carries high perioperative morbidity and poor long-term graft patency. To improve the outcome of BK angioplasty in small vessels, we combined techniques of coronary angioplasty with low profile wires and catheters. Initial success and late outcome during two years of experience in 97 pts (117 BK diseased vessels) are presented. Patient population included 35 pts with single-vessel disease, 62 pts with multi-vessel lesions, and 37 pts (38%) who presented for limb salvage procedures. All patients had comorbidity with at least one of the following: coronary artery disease, diabetes, renal failure, and hypertension. **Results:** There was immediate success in 81/97 pts (the remaining 16 were treated with urokinase infusion, and delayed angioplasty) and final success was 92/97 pts (95%). Amputation was avoided in 32/37 pts (86%) and 3 pts died. Clinical follow-up (minimum 6 months, up to 24 months) revealed restenosis in 33 pts (34%); of these, 23 agreed to a repeat angiogram and redo angioplasty, which was successful.

Conclusion: This modified below-the-knee PVD angioplasty procedure results in high initial success, a high rate of limb salvage, and in significant clinical improvement. Restenosis remains high (around 34%).

770-3 Assessment and Follow-Up of Intrapopliteal Transcatheter Interventions in Diabetic Patients Referred for Amputation

George P. Hanna, Ole Kjellgren, Steve Feld, Caroline E. Fife, George Schroth, H. Vernon Anderson, Richard W. Smalling. *University of Texas Med School/Hermann Hospital, Houston, TX*

The value of transcatheter interventions in diabetic patients with limb-threatening ischemia and extensive occlusive disease of the crural arteries is controversial. Tissue perfusion is difficult to assess clinically and doppler measurements are unreliable. Transcutaneous room air pO_2 (TcO_2) levels less than 40 mmHg are associated with limb loss. We performed percutaneous interventions in 28 diabetic patients with non-healing foot ulcers who were not surgical candidates and who were referred for below knee amputation. All had extensive intrapopliteal disease with at least 2 crural arteries involved. Procedures were considered angiographically successful in all patients with less than 20% residual stenosis in the posterior tibial or dorsalis pedis or both. TcO_2 improved markedly into the range of tissue viability, from 26.9 ± 15.2 to 63.2 ± 19.5 mmHg ($p < 0.0001$). Ankle Brachial index improved only slightly, from 0.6 ± 0.2 to 0.7 ± 0.2 (NS). The patients were treated with long-term warfarin in addition to aspirin. During a mean follow up of 12 months, 5 patients underwent below knee amputations (3 due to unsuccessful procedures with no improvement in TcO_2 and 2 due to uncontrolled infections) while the remaining patients experienced progressive wound healing (82% long-term success).

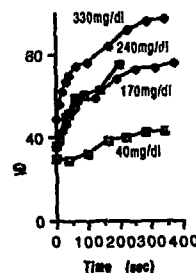
Conclusions: 1. Intrapopliteal transcatheter interventions in diabetic patients salvage limbs doomed for amputation. 2. TcO_2 measurements are valuable in predicting wound healing and success after interventions. 3. Ankle Brachial index measurements appear to be of limited value in diabetic patients.

4:45

770-4 Spontaneous Echo Contrast Videodensity Is Dependent on the Relative Concentrations of Fibrinogen and Red Blood Cells

Raymonda Rastegar, Peter Weidemann, Valentin Fuster, James Chesebro, Barry Collier, Keith Moskowitz, Adrian Padurean, Julie Patel, Martin E. Goldman. *Mt. Sinai Hospital, New York, NY*

We have previously demonstrated that spontaneous echo contrast (SEC) is due to an interaction between red blood cells (RBC) and fibrinogen (Fg) at low shear rates. However, the mechanism responsible for the varying densities of SEC seen clinically (faint or dense) is not known. Thus, in a mixing chamber, incremental concentrations [] of Fg was added to 4 different [Hct]: very low (Hct = 7-14%), low (27-35), physiological (39-47) and high (53-60). Videodensity (VD) was measured on a scale of 0 (black) to 100 (white) (Nova Microsonics). Whole blood had a VD = 69, washed RBC = 30 and Fg alone = 9. For each [Hct], as more Fg was added, VD increased then plateaued. Hct and Fg [] were also allowed to settle after flow was stopped to measure SEC generation (sedimentation) rate (figure for Hct = 44) which consistently showed increased VD for higher [Fg] both at time 0 throughout 6 minutes and which then plateaued.



Thus, varying SEC densities is dependent on a critical stoichiometric relationship between RBC and Fg.

5:00

770-5 Percutaneous Autologous Vein Covered Palmaz™ Stents Can Repair Arterial Injuries

Gerald Dorros, Michael R. Jaff, Joel M. Cohn, Leslie E. Palmer. *St. Luke's Medical Center, Milwaukee, WI*

This study evaluated the use of an autologous cephalic vein covered Palmaz™